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AVIFAUNA OF THE EASTERN GHATS WITH SPECIAL REFERENCE TO THE
JERDON'S COURSER *Cursorius bitorquatus*

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CONTENTS

<u>Chapter</u>	<u>Page no.</u>
Introduction	1
Study area	2
Methodology	4
Results & Discussion	5
Recommendations	11
References	12

INTRODUCTION

The Eastern Ghats are geologically the oldest formations in India. They are important because of their influence on peninsular climate and biotic distributions. They support the last tracts of remnant humid forest in the peninsula and their fauna, and are thus a vital conservation zone. The avifauna of the region has been worked on by several ornithologists (Whistler & Kinnear 1930-37, Ali 1933-34, Abdulali 1945, 1953, Price 1979, 1983, Krishna Raju 1982, 1984, 1985, Beehler *et al.* 1985, Ripley *et al.* 1987, 1988, Bhushan 1994). However, the Eastern Ghats have received relatively less attention than the Western Ghats, as it is biologically less richer than the latter (Ripley *et al.* 1987).

The Jerdon's or Double Banded Courser *Cursorius bitorquatus* is an endangered avian species endemic to the region. The first authentic sighting of the Jerdon's Courser was in 1848 by T.C. Jerdon near the Pennar river valley system in the neighbourhood of Nellore and Cuddapah (Blyth 1848). Till the year 1900, a few sightings were had near the river valleys of Nellore and Cuddapah (Blyth 1848), close to Sironcha on the Godavari river valley and again near Badhrachalam (Blanford 1898), and lastly, near Anantapur by Campbell in 1900 (Ali 1977, 1983). These sightings were the only authentic records of the distribution of the Jerdon's Courser in the restricted region of the Eastern Ghats.

Thereafter, efforts to locate this elusive species during the Eastern Ghats Survey (Whistler & Kinnear 1930-37), the Hyderabad State Ornithological Survey (Ali 1933-34), and two "special explorations" by the BNHS in 1975 and 1976 with the collaboration of the Smithsonian Institution and the WWF - India, did not achieve positive results (Ali 1977). The species was even presumed to be extinct (Ripley 1952, 1982, King 1981), till it was rediscovered in 1986 in the Pennar Valley by Bharat Bhushan (see references). The present status of the bird is poorly known, but it is considered to be endangered because of its limited distribution.

The present study was carried out from May 1994 to October 1995 in the southern regions of the Eastern Ghats regions in Andhra Pradesh. The study had the following objectives:

1. To study the distribution and population of the Jerdon's Courser in the southern part of the Eastern Ghats areas of Andhra Pradesh,
2. To propagate awareness and conservation of the Jerdon's Courser and its habitat,
3. To study the avifauna of the southern part of the Eastern Ghats complex of Andhra Pradesh.

STUDY AREA

The studies were confined to the southern regions of the Eastern Ghats regions of Andhra Pradesh, covering the hill ranges of Erramalai, Seshachalam, Velikonda, Palakonda, Lankamalai (see Fig. 1). These hills hold various forest types, such as Tropical Thorn Forest, Dry Deciduous Mixed Forest, Dry Evergreen Forest, and also scrub jungle, which is a result of the degradation of these forests by deforestation.

In the case of the Jerdon's Courser, areas in the regions of the its known (past and present) distributional range in southern Andhra Pradesh were surveyed. Avifaunal surveys were done in selected sites of these ranges, which come under the following forest divisions:

Nellore Forest Division

The following ranges were selected in Nellore Forest Division: Somasila, Rajupalem, Kambampadu, Mammurpalli, Chilkalamarri, Kulluru, Arthurpalli, Gonapalli, Penchilakona, Pudalukur, Athmakur, Podullakur, Tapur, Sullurpet and Nellore.

The undulating hills slopes of these areas are predominantly made up of rocky red soils, covered by grass of 15-30 cm height. The scrub jungle forest predominantly consists of short species (1-2 m) of *Acacia*, *Euphorbia* and *Zizyphus* bushes. The vegetation is taller (3-5 m) in the interior areas, than near human settlements.

Along with forested areas, a number of waterbodies occur in the Nellore Forest Division, such as the lakes or reservoirs of Kambampadu, Kammurpalli, Govindanpalli, Chilkalamarri, Rajupalem, Andhurpalli, Gonapalli, and the shallow water spread near Sullurpet.

Chittoor and Cuddapah Forest Divisions

In Chittoor district, the Sri Venkateswara National Park, comprising an area of 506.94 km², of which 353 km² is under the National Park, was selected for the avifaunal survey. This forest, predominantly Moist Deciduous Forest, is dominated by Red Sanders *Santalinus pterocarpus* - a rare tree species endemic to Andhra Pradesh. The Park has steep slopes and deep valleys. The slopes are dominated by Moist Deciduous Forest, whereas, the foothills have scrub jungle. These forests extend almost to the Rajampet areas of Cuddapah district and upto Chandragiri and Boilapadu in Chittoor district.

The Cuddapah Forest Division is one of the former and presently known habitats of the Jerdon's Courser. The following ranges/forests were surveyed: Vontimitta, Rajampeta, Badvel, Maidukkur, along with the Sri Lankamaleswara Wildlife Sanctuary. These forests consist of Dry Deciduous Mixed Forest, Dry Evergreen Forest and Thorn Forest. Many areas have degraded to scrub jungle due to tree cutting. The height of the scrub jungle varies from 2-4 m, but those in the interior attain 3-5 m in height. The scrub is interspersed with patches of short thin grass, and the ground is strewn with rocks.

Anantapur and Kurnool Forest Divisions

Anantapur division is in a drought prone tract. Forests occur in certain areas, such as Mudinayanapalli, Kalasamuthiram, Penakucherla and Kadiri. Most of the division is largely under scrub jungle, with many open areas or grasslands. Kurnool Division is made up largely of open heavily grazed grasslands, and the scrub jungle and Thorn Forest is mainly restricted to the hills.



SOURCE : FOREST ATLAS MADRAS PLATE 12

SCALE : 1 : 1,000,000

Fig. 1. The Pennar river valley areas in the Eastern Ghats complex of southern Andhra Pradesh

METHODOLOGY

Sampling of avian diversity was carried out in selected areas of the Eastern Ghats complex in Andhra Pradesh. Besides the landbirds, waterbirds in the surrounding waterbodies were also recorded. These field trips were made either in the mornings or evenings, when bird activity is maximum.

In the case of the Jerdon's Courser, searches for the birds were made both during the day and night, as it is largely a nocturnal species. During the night surveys, the searches were conducted on foot, using a focus light powered by a motorcycle battery, with a buzzer device to distract the birds - traditionally used by the local hunters. These searches were generally made between 2100 - 0400 hrs. This equipment was only useful during moonless nights. These searches were carried out in Siddavattam and Badvel forest ranges, Reddipalli, Konduru, Kothacherruvu, Nityapooja and Gobalaswami temple areas - which are known to be, or had been, sites of the species. Surveys were also carried out during the day. Indirect evidences like feathers, droppings and footprints were also looked for.

During the surveys, enquiries were conducted with villagers, bird trappers and Forest Department personnel about the presence of the bird in the areas, with the help of photographs, posters etc. During such enquiries, efforts were made to create awareness for the conservation of the Jerdon's Courser and its habitat.

RESULTS & DISCUSSION

AVIFAUNA

A total of 36 species of waterbirds and 87 species of landbirds were recorded from the region (Table 1). The checklist recorded less species than that of Bhushan's (1994) checklist, as the stays at the different sampling sites were of short durations and mist netting was not done - unlike his study.

JERDON'S COURSER

Distribution: During this survey, sightings of the Jerdon's Courser were only had from Cuddapah district. There were a total of five sightings, each of solitary birds. All the sightings were during the night. All the sightings were in the Sri Lankamaleswara Wildlife Sanctuary, in an area of about 5 km² (Table 2). Interestingly, after the rediscovery of the Jerdon's Courser by Bharat Bhushan, which was of a single bird, all the subsequent sightings by him during his study were of pairs.

Table 2. Sightings of the Jerdon's Courser in Sri Lankamaleswara Wildlife Sanctuary

Date of sighting	Time	No. of birds
27 Dec. 1994	2320	one
30 Dec. 1994	2345	one
7 Feb. 1995	0025	one
13 Feb. 1995	0315	one
6 Mar. 1995	0040	one

Enquiries with the locals indicated the presence of the Courser in Nellore Forest Division - though no birds were sighted during the surveys. Seventy percent of the respondents from this division gave positive replies regarding the presence of the bird in the area. One trapper from Chikalamari claimed to have trapped the bird in February 1995. Other trappers from the area also claim to know or had trapped the birds occasionally a few years ago. We did not see any Courser during our search from Chikalamari to Somasila, but calls, probably of the Courser, were

heard a few times in different areas. At Gonapalli, Rapur Forest Range, a watcher said that he knew the call of the Jerdon's Courser and claimed to have seen the bird about a year back. A few trappers (Dhugnetti Tirubal, Panchilaiah, Ramesh, Narasaiah, all of Gonapalli) also claimed to have seen and heard the call of the birds occasionally. They said the frequency of their sighting the bird was once or twice a year.

No positive results (either actual sightings, indirect evidences, or from enquiries) were obtained about the Jerdon's Courser presence in Chittoor, Anantapur and Kurnool forest divisions.

Habitat

The habitat of the Jerdon's Courser is described as "rocks and undulating ground with thin forest/jungle" (Jerdon 1877) and "thin forest or high scrub, never in open ground" (Blanford 1898).

Similar type of habitat occurs in Sri Lankamaleswara Wildlife Sanctuary, where the birds were sighted during this study: undulating grasslands with thin thorny scrub. The grasses were overgrazed, and could grow better only amidst the protection of the patches of thorny shrubs like *Carissa*, *Zizyphus* and *Euphorbia*. All the sightings were close to small water bodies.

Trappers of Sri Lankamaleswara Wildlife Sanctuary area say that the Courser inhabits the hills during the monsoon, and inhabits the foothills during rest of the year. This may explain the different habitat types attributed to the species by Jerdon and Blanford. Jerdon (1877) believed the species to be a "mountain form of *Cursorius*, frequenting rocky hill with thin jungle", while Blanford (1898) never recorded it in the hills.

Calls

Ali & Ripley (1983), quoting Jerdon, mention that the bird is not noisy but occasionally utters a plaintive call. Some trappers (Lakshmaiah, Narasiah of Kuluru, Kondaiah, Panchilaiah of Somasila, Muhenna of Konduru and Narayanalah of Gonapalli villages in Nellore Forest Division) described the call of the Jerdon's Courser as:

"kwick — kweek —kwick —kweek —kweek —kweek —kweek.

The same plaintive call was heard by us on seven occasions during the field trip to these areas. However, this call is very similar to the calls of the Stone Curlew *Burhinus oedicephalus*, described in Ali & Ripley's Handbook as:

"pick -- pick -- pick -- pick"

"pick-wick, pick-wick, pick-wick"

Thus, it is not certain, if the reported and heard calls were of the Jerdon's Courser.

Nest

The only record of a nest described in a defunct Asian newspaper in 1895, was of a clutch of 2 eggs: described as bright yellow-stone, the ground colour almost obliterated by black scrawly blotches and spots; laid on the ground in thin scrub jungle (see Ali & Ripley 1983). The breeding season according to Baker (1929) is presumably around June, as the male specimen collected by Howard at Anantapur had very enlarged testes.

No records or reports of nests or breeding activity were obtained by Bharat Bhushan during his studies on the Jerdon's Courser after its rediscovery (see references). During this study, a few shikaris described the nest and eggs of the Jerdon's Courser, which appears similar to the account in the newspaper - nest a scrape on the ground, amidst stony open ground; two egg clutch, eggs yellowish with many black blotches; similar to the Redwattled Lapwing's *Vanellus indicus* eggs, but a little smaller.

RECOMMENDATIONS

- 1) All sightings of the Courser, nests, eggs and chicks should be recorded in a register by the Forest Department, as is being done for the Great Indian Bustard *Ardeotis nigriceps* at the Rolapadu Wildlife Sanctuary, Kurnool district.
- 2) An intensive study with equipment for studying the species during the night hours should be undertaken to know its abundance, ecology and habitat requirements. Radio-telemetry studies will also be essential, in addition to night vision binoculars and scopes. Without such a study, it would be extremely difficult to recommend measures to conserve the species and its habitat.
- 3) From old literature and from the present survey, it appears that the habitat of the Jerdon's Courser is: thin scrubland with open patches. It thus seems logical to presume that the degradation of the forests in these areas have opened-up more areas for the species. However, further destruction of the scrub by wood-cutting and over-grazing will probably be detrimental to the Courser.
- 4) A conservation awareness programme for the Jerdon's Courser and its habitat should be carried out on an urgent basis.

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